

## **REMARKS**

Claims 1-12 are pending.

Claims 1-12 are rejected.

### **Deletion of Table on Page 13**

The Applicants have deleted the table on page 13. The table reversed the designation of Reel No. in column 1. The line for 1A (invention) should have read 12 (comparison) and the line for 12 should have read 1A. It is clear from the Summary and Conclusions on the same page that the Reel Nos were incorrectly reversed in order for the Summary and Conclusions to make sense. Thus the Applicants have deleted the table to eliminate confusion regarding results for 5-7 in the Summary and Conclusions. The Applicants apologize for the error. Thus the arguments concerning the stated advantages brought to the Examiners attention in the earlier response (August 10, 2006) still apply.

### **Declaration**

The Applicants have submitted a copy of a declaration by one of the inventors, Dr. Kenneth Sundberg explaining and confirming the error. An original declaration will be forwarded as soon as it is received via regular mail.

### **35 USC 103(a)**

**Claims 1-12 are rejected under 35 USC 103 (a) as being unpatentable over Tansley et al. in view of Fakoukakis et al., US 4,956,478.**

The Examiner has maintained this rejection. Thus the Final Rejection.

The Examiner alleges that the presently claimed composition is substantially the same as those of the instant invention. Examiner further states that it would have been obvious to one of ordinary skill in the art to use ASA with the claimed impurities in the paper of Tansley et al. in view of Fakoukakis et al. as a well known sizing agent to avoid unwanted by-products.

While Fakoukakis discloses ASA with low polymeric residues, Fakoukakis makes absolutely no mention of them being used in paper. Tansley mentions that the use of AKA in paper is conventional. Column 4, line 24.

Tansley is however, primarily interested in alkyl ketene dimers which differ considerably from alkenyl succinic anhydrides. See structure for alkenyl succinic anhydride on page 1 of the present disclosure and structure for ketene dimer in column 4, line 28 of Tansley. All of the examples of Tansley are directed to ketene dimer.

As Tansley is not in fact using alkenyl succinic anhydride (it is only mentioned as conventional) and Fakoukakis does not include any references to papermaking, the Applicants believe there to be no motivation to use alkenyl succinic anhydride of the latter in the process of the former.

The Examiner argues that one of ordinary skill in the art would use the alkenyl succinic anhydrides of Fakoukakis in the product of Tansley to avoid unwanted by-products and to eliminate the cost of an extra distillation step. But even if there were motivation (the Applicants do not agree that there is), the use of the product of Fakoukakis in the papermaking process of Tansley, provides a sized paper of surprisingly improved properties. Neither Fakoukakis nor Tansley could have been aware of the specific advantages imparted to sized paper.

The Applicants enumerate the unobvious advantages listed on page 13 under "Summary and Conclusions". The emulsion alkenyl succinic anhydride with low level polymeric residues has a lower rate of hydrolysis, better colour, better sizing performance, better lactic acid resistance and better peroxide resistance.

In the event that the Examiner does not accept the enclosed Declaration and bars the Applicants from arguing better performance using the basis of the results on page 13 directed to tests 5-7, the emulsion alkenyl succinic anhydride with low levels of polymeric residues clearly shows a lower rate of hydrolysis and better colour. See tests on page 12 of present specification. These improved paper attributes coated with the high purity alkenyl succinic anhydride of the invention could never have been predicted based on Tansley in view of Fakoukakis.

Because the high purity alkenyl succinic anhydride of the invention on paper gives surprising improved performance, the Applicants submit that the 103(a) rejection is overcome.

Reconsideration and withdrawal of the rejection of claims 1-12 is respectfully solicited in light of the remarks *supra*.

Since there are no other grounds of objection or rejection, passage of this application to issue with claims 1-12 is earnestly solicited.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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Enclosure: 1.132 Declaration.